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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.    | CONFIRMATION NO. |
|--|-------------|----------------------|------------------------|------------------|
| 10/755,024   | 01/09/2004  | Tapesh Yadav         | A54DIV1                | 7726             |
| 25235  | 7590        | 02/13/2006           | EXAMINER               |                  |
| HOGAN & HARTSON LLP<br>ONE TABOR CENTER, SUITE 1500<br>1200 SEVENTEENTH ST<br>DENVER, CO 80202 |             |                      | WYSZOMIERSKI, GEORGE P |                  |
|  |             |                      | ART UNIT               | PAPER NUMBER     |
|  |             |                      | 1742                   |                  |

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/755,024

Applicant(s)

YADAV, TAPESH

Examiner

George P. Wyszomierski

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 1/9/2004 (Divisional Application).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 16-18 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/24/04</u> . | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1742

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-15 and 19, drawn to a method of making nanoscale powders, classified in class 75, subclass 343.
  - II. Claims 16, 17, 18 and 20, drawn to products, classified in various subclasses in class 148, 420 or 423, depending on the composition of the powders.

2. The inventions are distinct, each from the other because:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by a materially different process, such as a reverse micelle process.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their different classification and recognized divergent subject matter, restriction for examination purposes as indicated is proper.

3. During a telephone conversation with the law firm of Hogan and Hartson on January 19, 2006 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-15 and 19. Affirmation of this election must be made by applicant in replying to this Office action. Claims 16-18 and 20 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Art Unit: 1742

4. Claims 1, 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The values recited for plug flow index in these claims are not consistent with those disclosed in the body of the specification. The only disclosure of plug flow index values in the specification appears to be at page 16, which states that the plug flow index "preferably equals 5, more preferably equals 50, and most preferably equals 500." In contrast, claims 1, 4 and 5 recite a plug flow index of "more than 5", "greater than 50", and "greater than 500" respectively. Clarification is required as to what the plug flow index value should be in the inventive process.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moser (U.S. patent 5,417,956).

Moser discloses making nanoscale particles by a method which includes forcing a mixture of precursor solutions and precipitating agents(s) through a reactor under high pressure such that the precursors react with the precipitating agents, i.e. a lower valence material is precipitated in the form of nanoscale particles. The solutions can be recirculated and remixed as needed; see Moser column 3, lines 36-63. The prior art process further includes an additional high temperature calcining step; see Moser column 4, lines 1-5. Various oxides and

Art Unit: 1742

mixtures can be made in this manner, i.e. products comprising metal and non-metal (oxygen).

The precursors may be organometallic as recited in claim 6, and may comprise one or more of the elements recited in claim 19.

The prior art does not disclose making powders comprising nitrogen or carbon, as recited in instant claims 12 and 13, and does not disclose the plug flow index values recited in instant claims 1, 4 and 5. These differences are not seen as resulting in a patentable distinction between the prior art and the claimed invention because:

a) Many of the precursors and precipitating agents used in the Moser process contain nitrogen and/or carbon (see Moser column 4, line 44 to column 5, line 9), and the examiner's position is that at least a residual amount of nitrogen or carbon would remain in the final product of the prior art process, at least enough to form powders which "comprise" these elements in accord with the instant claims.

b) With regard to plug flow index, one important aspect of the Moser process involves varying the pressure applied to the materials in the prior art reactor; note particularly example 3 of Moser. It would have been a trivial matter for one of ordinary skill in the art to select a pressure which results in the plug flow index as presently claimed.

Consequently, a prima facie case of obviousness is established between the disclosure of Moser and the presently claimed invention.

7. The remainder of the art cited on the attached PTO-892 and 1449 forms is of interest. This art is held to be no more relevant to the claimed invention than the art as applied in the rejection, *supra*.


Art Unit: 1742

8. On the IDS filed March 24, 2004, non-patent literature documents 1 thru 6 have been crossed out and not considered because no copy of these documents was provided as required by 37 CFR 1.98 (a)(2).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. All patent application related correspondence transmitted by facsimile must be directed to the new central facsimile number, (571)-273-8300. This new Central FAX Number is the result of relocating the Central FAX server to the Office's Alexandria, Virginia campus.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
GEORGE WYSZOMIERSKI  
PRIMARY EXAMINER  
GROUP 1700

GPW  
February 7, 2006